

**Responses to Public Comments on
“Multi-Media Cumulative Impacts” Working Definition
February 4, 2005**

1. Comments from the California Council for Environmental and Economic Balance (CCEEB), Western Growers, and the California Independent Petroleum Association (CIPA)

Comment 1: “CCEEB suggests that Cal/EPA define ‘multi-media cumulative impacts’ as ‘the adverse health risk posed by exposure to pollutants from multiple pollution sources.’

This suggested definition is appropriate for the following reasons.

- A) It captures the multi-media aspect by referring to ‘pollution sources’ as opposed to, for example, just air pollution sources or just waste discharge sources.
- B) It captures the cumulative aspect (i.e., sources evaluated in the aggregate) by referring to ‘multiple’ pollution source.
- C) Consistent with OEHHA’s guidance on health risk assessment, it includes (in the term ‘health risk’) both cancer and noncancer (acute and chronic) risk.
- D) It allows consideration of the paths of exposure (air, water, food and soil) and the toxicity of the pollutants involved. (A definition that just added emissions and discharges would not be adequate because, as OEHHA is well aware, the toxicity of a chemical varies between chemicals and health risk varies with factors such as exposure, distance to receptor, etc.)
- E) Cal/EPA’s application of this definition would allow objective, as opposed to subjective, evaluation of what are the cumulative impacts in a community. This is critical to the development of fair and equitable programs to address cumulative impacts.
- F) It is consistent with Cal/EPA’s commitment to conduct cumulative impacts efforts with a ‘strong scientific foundation.’
- G) It will allow Cal/EPA and the BDOs to prioritize their work and focus on the health risks that pose the greatest harm.”

Response 1: Staff believes that our recommended definition is consistent with the reasons cited above for the CCEEB’s definition. The term “multi-media” is intended to convey multiple routes of exposure to sources of impact. The term “combined effects of emissions, discharges, and exposures” is intended to suggest that multiple sources of impact are being considered under the definition and that impacts will be considered in the aggregate. We agree that cancer and non-cancer endpoints are of concern. In considering a “combined effect,” not only will the amount of a given emission, discharge or exposure be considered, but also its ability to cause an effect (i.e., its toxicity). Staff believes that the proposed working definition will facilitate an objective evaluation of potential cumulative impacts and may lead Cal/EPA to ways to address such impacts, particularly reducing health risks to children. Staff also believes that the proposed definition can lead to assessments with a strong scientific foundation and will allow assessments that can focus on those effects that pose the greatest harm to a given community.

Comment 2: “CCEEB’s suggested definition of ‘multi-media cumulative impacts’ would cover the ‘scope’ of multi-media cumulative impacts (*i.e.*, what is included in that term). It would not address the issue of how the Agency would decide if there is a cumulative impacts problem. For example, we expect that any community in the South Coast Air Basin might have ‘multi-media cumulative impacts’ under the suggested definition just based on the cancer risk due to mobile sources. But how should Cal/EPA and the BDOs determine if the level of cumulative health risk in a community is disparate (e.g., that it is unusually higher than the cumulative health risk for the region)? There are many such related issues that Cal/EPA will need to think through and resolve with input from stakeholders. This particular comment set is limited to what should and what should not be included in the meaning of the term.”

Response 2: Staff agrees that the proposal of a definition does not guide a determination as to whether cumulative impacts are occurring within a given community. Staff also recognizes that it will be necessary to “think through and resolve” such issues during the inventory, evaluation and development of cumulative impacts assessment tools and guidance.

Comment 3: “The definition of ‘multi-media cumulative impacts’ should not include social factors (e.g., lack of health insurance, emotional stress, dilapidated housing, crime, vermin, nutrition, etc.).

Some groups have suggested that the definition of “multi-media cumulative impacts” should include social factors such as those included in a draft report by a working group to the National Environmental Justice Advisory Council. That draft report’s list suggests more than 45 varied factors including lack of health insurance, emotional stress, dilapidated housing, crime, vermin, nutrition, etc. CCEEB recognizes that many people in many communities in California try to cope with major problems every day such as lack of health insurance, crime in the neighborhood and emotional stress. However, environmental justice policies and related regulatory programs cannot be expected, and nor should they be required, to resolve broader issues of social injustice. Including these factors in the scope of ‘multi-media cumulative impacts’ would suggest that Cal/EPA could somehow resolve those types of social issues. While these are issues that may present serious concerns for a community, they are issues that are beyond Cal/EPA’s jurisdiction and are beyond Cal/EPA’s capacity to resolve. Some would suggest that these factors should be included in the definition because members of the public who are subject to such factors are more vulnerable to environmental exposures. CCEEB suggests that Cal/EPA should **not** include the social factors in the definition for the following additional reasons.

- A. OEHHA’s guidance already takes into account populations with high vulnerability.
- B. CCEEB is not aware of peer-reviewed data and methodologies to support inclusion of these social factors in a definition of “multi-media cumulative impacts.”
- C. Analyses of multi-media cumulative health impacts need to be objective and science-based – not based on speculation. Allowing consideration of an undefined host of factors that cannot be quantified would lead to arbitrary decisions – not effective uses of limited resources that are critical for improved public health.

D. Where the Legislature has decided that inclusion of a specific new element in an environmental analysis is appropriate and should be required, the Legislature has specifically authorized or required the analysis of a factor (e.g., susceptibility of infants and children to air pollutants). On a related note, U.S. EPA has looked at considering lifestyle choices such as smoking, alcohol consumption, and the abuse of drugs. Certainly there are public health issues that are associated with lifestyle choices, but they should not be part of a cumulative impacts analysis that could lead to further environmental regulation for business (further regulation which would not address the health issues raised by those lifestyle choices). Cal/EPA has taken on a huge technical and policy challenge by moving into the area of cumulative impacts. By exploring the cumulative impacts on a multi-media basis, Cal/EPA is adding another vast dimension to the already challenging area of analyzing cumulative impacts for an individual environmental medium. Cal/EPA's work on analyzing and addressing pollution on a cumulative and multi-media basis should focus on what pollution people are being exposed to from multiple sources, and what health risk does that exposure pose."

Response 3: Staff's proposed working definition of "multi-media cumulative impacts" focuses on emissions, discharges and exposures. In performing cumulative impacts analyses for the pilot projects, staff will focus on emissions, discharges, exposures and health risks. The scope of each assessment will be defined by the pilot project lead, with stakeholder input, and time and resource constraints. The factors to be considered in each assessment will depend on the availability of scientific data, and science-based, peer-reviewed cumulative impacts assessment tools, guidelines and methodologies.

For purposes of the pilot projects, the feasibility of including social factors, such as health status, will be explored. However, consideration of such factors in a cumulative impacts analysis would be limited to the extent that scientific data and science-based, peer-reviewed tools and guidelines are available to assess and quantify how these factors affect the communities' sensitivity to emissions, discharges, exposures and health risks.

Guidance provided by OEHHA on the health risks associated with exposure to chemicals *does* take into account sensitive subpopulations, to the extent that data support such a determination. However, OEHHA has not considered in its risk assessment guidance, all the possible ways in which the communities under study in the pilot projects may be made more vulnerable to emissions, discharges, and exposures. OEHHA will examine this issue during the implementation of the pilot projects.

Staff is aware of the challenge in analyzing cumulative impacts. In the course of making an inventory of available tools for performing cumulative impacts analysis, there will likely be gaps in our knowledge of how some factors interact and how this may affect cumulative impacts.

Comment 4: "The Advisory Committee's Suggested Default Definition of 'Cumulative Impacts' is Subject to Multiple Interpretations and is Problematic.

As Cal/EPA's Advisory Committee on Environmental Justice developed its recommendations to Cal/EPA, one recommendation that was in multiple drafts for a very long time and that was in the last (July 2003) public draft was a draft recommendation that Cal/EPA establish a common definition of 'cumulative impacts.' CCEEB supported inclusion of that draft recommendation. On the last day that the Committee met and voted on the recommendations report (September 30, 2003), the Committee had a relatively quick discussion regarding the recommendation on the definition of "cumulative impacts." (Secretary Winston Hickox was present at the meeting and wanted to witness the final vote on the report but needed to leave before the meeting had been scheduled to end.) The Committee discussed suggesting a definition based on the total of all emissions and discharges. Committee member Cindy Tuck (CCEEB's General Counsel) noted that just adding emissions and discharges would leave out the key information such as what is the public's exposure, what is the toxicity of the chemicals involved and what is the health risk. After some discussion, the Committee voted to recommend that Cal/EPA establish a common definition of "cumulative impacts" in a public process within six months and that in the interim the interim definition should be "the total burden of all emissions and discharges in a geographical area."

CCEEB did not support the definition developed at that meeting. As quoted below from the Alternative Opinion to the Committee's Report (at Page 44 of the Committee's report), CCEEB explained concerns about the suggested default definition.

CCEEB is reviewing this brand new version of this recommendation. One initial comment is that in evaluating cumulative impacts for an individual environmental media, such as air quality, it is important to inventory all of the emissions (or discharges), but evaluating emissions (or discharges) alone will not allow a regulator to determine whether or not there is a problem or what the magnitude of the problem is. For example, an area that is in attainment of the State ozone standard will have "total NOx and VOC emissions," but further regulatory action for ozone beyond maintenance efforts would be unnecessary for that area. The key question in that example is what is the concentration of ozone in the air (i.e., what level of ozone are people being exposed to and does that level exceed a health-based standard?). As another example, an area will have "total emissions" of toxic pollutants, but that number of emissions will not tell the agency if there is a problem or not. The regulator needs to look at which chemicals are involved, what the exposure is, what is the risk posed by the exposure (i.e., factors such as toxicity and distance to the nearest off-site receptor must be considered), and whether the risk exceeds acceptable limits or risk. As an Office of Environmental Health Hazard Assessment representative noted in a discussion at the August 26, 2003 meeting of the Air Resources Board's ("ARB's") Environmental Justice Stakeholders Group regarding how ARB should define "cumulative air pollution impacts," "emissions do not tell you what you need to know." He indicated that toxicity is key, and you cannot ignore risk assessment.

Developing an appropriate definition of "cumulative impacts" will be a key part of Cal/EPA's and the BDOs' work on environmental justice. A valid definition that takes into account exposures and health risk will be key to: 1) making sure

that decisions are reasonable regarding what constitutes the level of cumulative impacts that should be regulated beyond existing program requirements; and 2) making sure that measures to address unusually high levels of cumulative impacts are not arbitrary.

In looking at the Committee's suggested definition at this time, we still have those same concerns, and we note further that the Committee's definition is subject to multiple interpretations. As noted in Comment 1 above, it is important that Cal/EPA's definition be clear so that stakeholders interpret it the same way."

Response 4: Staff agrees with the comment that the nature and toxicity of a chemical emission, discharge, or exposure is important to consider in evaluating cumulative impacts. Staff believes that the proposed working definition for the pilot projects takes this factor into account in recommending that "combined effects" be evaluated. Such effects would include health risks associated with exposure to the chemical.

Comment 5: "The definition of 'multi-media cumulative impacts' could affect key programs in the future.

Cal/EPA is currently working to define 'multi-media cumulative impacts' and the next related step under the EJ Action Plan is the Phase 2 step of inventorying current science-based cumulative impact studies, protocols and tools and determining where the gaps existing in current methodologies. Both of these steps, and the step of filling gaps in science-based protocols and tools, are critical to having Cal/EPA's and the BDOs' work on multimedia cumulative impacts be effective, fair and equitable. In the Advisory Committee's process in 2002 and 2003, some participants were suggesting that no new permits should be issued in areas with high cumulative impacts. Others were suggesting the buffer zones should be applied in such areas. Cal/EPA's process to evaluate what are appropriate measures will occur a bit down the road, but given the types of measures that some groups have suggested, it makes it all the more important to have an objective meaning of the term 'multi-media cumulative impacts' and well-thought out policies for evaluating whether an area has disparate health risk due to exposure to environmental pollution."

Response 5: Staff's proposed working definition of "cumulative impacts" is for use in conducting the pilot projects under the Cal/EPA EJ Action Plan. We are looking to these pilot projects as an opportunity to explore how cumulative impacts may be considered in a "real world" situation.

2. Comments from the Consumer Specialty Products Association (CSPA)

Comment 1: "In response to a suggested definition for 'multi-media cumulative impacts,' CSPA recommends the following: 'multi-media cumulative impacts means the adverse health risk posed by exposure to pollutants from multiple pollution sources.' This definition is appropriate because it captures the multi-media aspect by referring to 'pollution sources' as opposed to, for example, just air pollution sources. It also captures the cumulative aspect (i.e., sources evaluated in the aggregate) by referring to 'multiple pollution sources.'

This definition is also consistent with OEHHA's guidance on health risk assessment in that it incorporates both cancer and non-cancer risk. Furthermore, this suggested definition allows consideration of multiple exposure pathways (e.g., air, water, food) and the toxicity of the pollutants involved.

In addition, CSPA believes that the definition of 'multi-media cumulative impacts' should not include social factors (e.g., lack of health insurance, emotional stress, dilapidated housing, crime, poor nutrition). Environmental justice policies and related regulatory programs cannot be expected, nor should they be required, to resolve broader issues of social injustice. While these are issues that may present serious concerns for a community, they are issues that are beyond Cal/EPA's jurisdiction and are beyond Cal/EPA's capacity to resolve.

Cal/EPA's application of the above-proposed definition would allow objective, as opposed to subjective, evaluation of the cumulative impacts in a given community. This is critical to the development of fair and equitable programs to address cumulative impacts. This definition is also consistent with Cal/EPA's commitment to develop cumulative impacts policy with a "strong scientific foundation" and will allow Cal/EPA and its BDOs to prioritize their work and focus on the health risks that pose the greatest potential harm.

CSPA believes that it is important to note that the proposed definition of 'multi-media cumulative impacts' would only cover the scope of multi-media cumulative impacts. It would not, for example, address the issue of how the agencies would determine if a cumulative impact problem exists.

CPSA strongly urges the Office of Environmental Health to adopt the proposed definition in lieu of the default definition suggested by members of Cal-EPA's Advisory Committee on Environmental Justice in September of 2003. The latter definition lacks any consideration of health risk and therefore will not inform rational decisions regarding: (1) what constitutes a cumulative impact; (2) whether the magnitude of the impact necessitates further regulation beyond existing program requirements; and (3) what measures may be necessary to mitigate the impact."

Response 1: Please see the responses above to the comments made by the California Council for Environmental and Economic Balance.

3. Comments from the California Business Properties Association (CBPA)

Comment 1: "In response to a suggested definition for 'multi-media cumulative impacts' we recommend the following: 'multi-media cumulative impacts means the adverse health risk posed by exposure to pollutants from multiple pollution sources.' This definition is appropriate because it captures the multi-media aspect by referring to 'pollution sources' as opposed to, for example, just air pollution sources. It also captures the cumulative aspect (i.e., sources evaluated in the aggregate) by referring to 'multiple pollution sources'.

This definition is also consistent with OEHHA's guidance on health risk assessment in that it incorporates both cancer and noncancer risk. It also allows consideration of multiple exposure pathways (e.g., air, water, food, etc.) and the toxicity of the pollutants involved.

We further believe that the definition of 'multi-media cumulative impacts' should not include social factors (e.g., lack of health insurance, emotional stress, dilapidated housing, crime, poor nutrition, etc.). Environmental justice policies and related regulatory programs cannot be expected, nor should they be required, to resolve broader issues of social injustice. While these are issues that may present serious concerns for a community, they are issues that are beyond Cal/EPA's jurisdiction and are beyond Cal/EPA's capacity to resolve.

Cal/EPA's application of the above-proposed definition would allow objective, as opposed to subjective, evaluation of the cumulative impacts in a given community. This is critical to the development of fair and equitable programs to address cumulative impacts. This definition is also consistent with Cal/EPA's commitment to develop cumulative impacts policy with a "strong scientific foundation" and will allow Cal/EPA and its BDOs to prioritize their work and focus on the health risks that pose the greatest potential harm.

It is important to note that the proposed definition of 'multi-media cumulative impacts' would only cover the scope of multi-media cumulative impacts. It would not, for example, address the issue of how the agencies would determine if a cumulative impact problem exists.

We strongly urge you to adopt the proposed definition in lieu of the default definition suggested by members of Cal-EPA's Advisory Committee on Environmental Justice in September of 2003. The latter definition lacks any consideration of health risk and therefore will not inform rational decisions regarding 1) what constitutes a cumulative impact, 2) whether the magnitude of the impact necessitates further regulation beyond existing program requirements and 3) what measures may be necessary to mitigate the impact."

Response 1: Please see the responses above to the comments made by the California Council for Environmental and Economic Balance.

4. Comments from the Western States Petroleum Association (WSPA)

Comment 1: "In response to a suggested definition for 'multi-media cumulative impacts' we recommend the following: 'multi-media cumulative impacts means the adverse health risk posed by exposure to pollutants from multiple pollution sources.'

This definition is appropriate because it captures the multi-media aspect by referring to 'pollution sources' as opposed to, for example, just air pollution sources. It also captures the cumulative aspect (i.e., sources evaluated in the aggregate) by referring to 'multiple pollution sources'.

This definition is also consistent with OEHHA's guidance on health risk assessment in that it incorporates both cancer and noncancer risk. It also allows consideration of multiple exposure pathways (e.g., air, water, food, etc.) and the toxicity of the pollutants involved.

We further believe that the definition of ‘multi-media cumulative impacts’ should not include social factors (e.g., lack of health insurance, emotional stress, dilapidated housing, crime, poor nutrition, etc.). Environmental justice policies and related regulatory programs cannot be expected, nor should they be required, to resolve broader issues of social injustice. While these are issues that may present serious concerns for a community, they are issues that are beyond Cal/EPA’s jurisdiction and are beyond Cal/EPA’s capacity to resolve.

Cal/EPA’s application of the above-proposed definition would allow objective, as opposed to subjective, evaluation of the cumulative impacts in a given community. This is critical to the development of fair and equitable programs to address cumulative impacts. This definition is also consistent with Cal/EPA’s commitment to develop cumulative impacts policy with a “strong scientific foundation” and will allow Cal/EPA and its BDOs to prioritize their work and focus on the health risks that pose the greatest potential harm.

It is important to note that the proposed definition of ‘multi-media cumulative impacts’ would only cover the scope of multi-media cumulative impacts. It would not, for example, address the issue of how the agencies would determine if a cumulative impact problem exists.

We strongly urge you to adopt the proposed definition in lieu of the default definition suggested by members of Cal-EPA’s Advisory Committee on Environmental Justice in September of 2003. The latter definition lacks any consideration of health risk and therefore will not inform rational decisions regarding 1) what constitutes a cumulative impact, 2) whether the magnitude of the impact necessitates further regulation beyond existing program requirements and 3) what measures may be necessary to mitigate the impact.”

Response 1: Please see the responses above to the comments made by the California Council for Environmental and Economic Balance.

5. Comments from the Chemical Industry Council of California (CICC)

Comment 1: “CICC recommends ‘multi-media cumulative impacts’ be defined as ‘the adverse health risk posed by exposure to pollutants from multiple pollution sources.’

CICC supports Cal/EPA’s effort to define ‘multi-media cumulative impacts’ under the EJ Action Plan. Clear terms allow Cal/EPA and stakeholders from various sectors of the public (including communities and businesses) to have to the same understanding of Agency policies. We recommend Cal/EPA define ‘multi-media cumulative impacts’ as it relates to exposure to pollutants. We suggest the following definition, ‘Multi-media cumulative impacts means the adverse health risk posed by exposure to pollutants from multiple pollution sources.’

CICC believes this definition is appropriate for the following reasons:

- It captures the multi-media aspect by referring to ‘pollution sources’ as opposed to merely air pollution sources or waste discharge.
- It captures the cumulative aspect (i.e., sources evaluated in the aggregate) by referring to ‘multiple’ pollution source.

- Consistent with OEHHA’s guidance on health risk assessment, it includes (in the term ‘health risk’) both cancer and non-cancer (acute and chronic) risk.
- It allows consideration of the paths of exposure (air, water, food and soil) and the toxicity of the pollutants involved.
- Cal/EPA’s application of this definition would allow objective, as opposed to subjective, evaluation of what are the cumulative impacts in a community. This is critical to the development of fair and equitable programs to address cumulative impacts.
- It is consistent with Cal/EPA’s commitment to conduct cumulative impacts efforts with a ‘strong scientific foundation.’ It will allow Cal/EPA and the BDOs to prioritize their work and focus on the health risks that pose the greatest harm.”

Response 1: See responses above to the comments made by the California Council for Environmental and Economic Balance.

Comment 2: “CICC strongly urges the definition of ‘multi-media cumulative impacts’ *not* include social factors (e.g., lack of health insurance, emotional stress, dilapidated housing, crime, vermin, nutrition, life style, etc.)

CICC is aware of the fact that some have suggested that the definition of ‘multi-media cumulative impacts’ should include social factors, such as those included in a draft report by a working group to the National Environmental Justice Advisory Council (NEJAC). That draft report’s suggests some 45 varied factors ranging from lack of health insurance, emotional stress, dilapidated housing, crime, vermin, nutrition, etc. CICC recognizes that many people in communities across California try to cope with these and other major social problems every day. *However, environmental policies and related regulatory programs cannot be expected, nor should they be required, to resolve broader social issues.*

Including social factors in the scope of ‘multi-media cumulative impacts’ would suggest that Cal/EPA could somehow resolve those types of issues. While they are issues that present serious concerns for a community, they are issues that are beyond Cal/EPA’s jurisdiction and are beyond Cal/EPA’s capacity to resolve.

CICC strongly urges social factors not be included in the definition or ‘multi-media cumulative impacts’ for the following additional reasons:

- OEHHA’s guidance already takes into account populations with high vulnerability.
- CICC is not aware of peer-reviewed data and methodologies to support inclusion of these social factors in a definition of “multi-media cumulative impacts.”
- Analyses of multi-media cumulative health impacts need to be objective and science-based – not based on speculation. Allowing consideration of an undefined host of factors that cannot be quantified would lead to arbitrary decisions.”

Response 2: See responses above to the comments made by the California Council for Environmental and Economic Balance.

Comment 3: “CICC’s suggested definition of ‘multi-media cumulative impacts’ covers the ‘scope’ of multi-media cumulative impacts (i.e., what is included in that term) but not the determination of how the Agency would decide if there is a cumulative impacts problem.”

Response 3: See responses above to the comments made by the California Council for Environmental and Economic Balance.

Comment 4: “Cal/EPA has undertaken a huge technical and policy challenge in the area of cumulative impacts by examining cumulative impacts on a multi-media basis. Cal/EPA is adding additional confounding factors to an already challenging area of analyzing cumulative impacts for an individual environmental medium. Cal/EPA’s work of analyzing and addressing pollution on a cumulative and multi-media basis should focus on the pollution Californians are exposed to from multiple sources, and the health risk, if any, posed by that exposure.”

Response 4: Staff agrees that analyzing cumulative impacts is and will be a significant challenge for the pilot projects. Multi-media evaluation of health risks will be a major focus of the pilot projects.

Comment 5: “Still some stakeholders have suggested that no new permits be issued in areas where high cumulative impacts are suspected. Others have suggested buffer zones be applied in suspect areas. For these reasons it makes it all the more important to the CICC that there be an objective, science-based definition of the term “multi-media cumulative impacts” and associated well-thought out policies for evaluating whether a geographical area has disparate health risk associated with exposure to environmental pollutants.”

Response 5: Staff believes that the approach taken in developing a working definition for cumulative impacts for the purpose of guiding this aspect of the pilot projects will result in a process that will allow Cal/EPA to explore new and currently underdeveloped areas of cumulative impacts assessment.

Comment 6: Defining multi-media cumulative impacts; inventorying current science-based cumulative impact studies, protocols and tools; determining where gaps exist in current methodologies; and then filling the gaps with new science-based protocols and tools is an enormous undertaking. It is, however, critical to the objective, and science-based evaluation of “multi-media cumulative impacts.”

Response 6: Staff recognizes the challenge of performing cumulative impacts assessment under the Cal/EPA EJ Action Plan. Staff also agrees that taking a science-based approach to the evaluation will result in strong, defensible work products.

6. Comments from the Western Plant Health Association (WPHA)

Comment 1: “We oppose the definition recommended by the Environmental Justice Advisory Committee that the definition for cumulative impact should be ‘the total burden of all emission and discharges in a geographical area.’

Any definition should include language identifying the role of science and risk. To develop the definition for cumulative impact, which we believe is key in developing the guidelines for the pilot projects; we believe the definition for cumulative impact requires ongoing discussion.

Within a definition for “cumulative impacts” the following concepts should be incorporated.

- The definition should include language that requires the use of scientific principles.
- All cumulative impact data should undergo a science-based cumulative impact analysis.
- This analysis should be a peer-reviewed process.
- While the process should be transparent, any release of data during the pilot project should be accompanied by an analysis developed scientifically by the over-seeing agency.
- Upon completion of a cumulative impact analysis, any recommendations that include alternative actions should include the direct and indirect effects of the alternative action.”

Response 1: Staff has proposed a working definition for cumulative impacts for use in the pilot projects that is expected to focus on scientific approaches, including the estimation of human health risks faced by the communities in the pilot projects. Staff also believes that science-based approaches are the strongest and most defensible approaches to evaluating cumulative impacts. At this time, staff cannot comment on or commit to releasing a scientific analysis by the overseeing agency with each set of data during the course of the pilot projects. We anticipate that alternative actions will be considered as a part of any recommendations made as a result of the cumulative impacts analysis. Direct and indirect effects of alternative actions will be examined where it is reasonable and possible to do so.

Comment 2: “We support the right of the public to have an advisory role in the evaluation process and pilot projects. However, we believe that this role should be directed toward making sure that the overseeing agencies acknowledge issues of concern, that agencies maintain transparency in their decision making process, and that agencies provide clear explanations for their evaluations, and the parameters of the pilot projects.”

Response 2: This view is consistent with staff’s approach to conducting the pilot projects.

Comment 3: “The collection and evaluation of cumulative impact data should be conducted in a cost effective manner. With limited resources available to agencies, it is important to utilize already existing data and scientifically sound analysis by agencies. Agencies should inventory research already available and utilize it in their evaluations.”

Response 3: The use of existing data is very likely to play a role in each of the pilot projects. Since the pilot projects that are conducted as a result of the EJ Action Plan are not directly funded, each board and department conducting a cumulative impacts assessment under the pilot projects will be conducted in a cost-effective manner.

7. Comments from the Industrial Environmental Association (IEA)

Comment 1: “We would support a suggested definition as follows: ‘Multi-media cumulative impacts mean the adverse health risk posed by exposure to pollutants from multiple pollution sources.’” “This definition takes into account the multi-media aspect by referring to ‘pollution sources’ as opposed to, for example, just air pollution and is also consistent with OEHHA’s guidance on health risk assessment that incorporates both cancer and noncancer risk.” “We also believe that social factors should not be included in this definition but rather addressed in a broader community and neighborhood-based context.”

Response 1: See responses to the comments made by the California Council for Environmental and Economic Balance above.

8. Comments from the California Seed Association (CSA)

Comment 1: “We agree that the challenge ahead is to develop a strong understandable EJ action plan that leaves as little room for interpretation as possible. With that in mind we would encourage you to replace the term multi-media with a more appropriate term, for example multi-pathway. The term multi-media for many conjures up, news media, television and other forms of communication not air, soil water and food. Because one goal of the plan is to include the public in this process, as much as possible, we must to be cognizant of the terminology and use terminology that best fits the task at hand. We are in support of a clear definition of cumulative impacts, only then can guidance eventually be drafted.”

Response 1: The term “multi-media” was intended to convey the different means by which people may be exposed to emissions and discharges (*e.g.*, air and water). It is our intent that a multi-media analysis will include consideration of multiple pathways of exposure.

9. Comments from the Public Trust Alliance

Comment 1: “With regard to the now clearly recognized problem of cumulative impacts, it is far too late to continue pretending that industrial chemicals enter our shared water and air individually. Chemical wastes are always added to those already circulating in our atmosphere and waters from other processes. They often interact in complex ways and collectively diminish the assimilative capacity of these resource systems. The particular challenge in environmental justice communities is that many harmful industrial processors are already located within short distances of their homes.”

Response 1: In conducting cumulative impacts analyses in the pilot projects, staff plans to explore the cumulative and interactive effects of pollutants where possible. However, staff also recognizes that the nature and extent of interactions is complex and not well understood in many cases.

10. Comments from the California Environmental Rights Alliance (CERA)

Comment 1: “Cal/EPA should adopt an inclusive definition of cumulative impacts that incorporates all of the variables within each of the parameters identified by the Office of Environmental Health Hazard Assessment (OEHHA). In his presentation at the EJ Action Plan Workshop in Sacramento on November 8, 2004, Mr. John Faust of OEHHA identified the key parameters for developing a definition of multi-media cumulative environmental impacts. Those parameters include (1) who or what is impacted, (2) the cause of the impacts, (3) the type of impacts, and (4) the time frame of the impacts. Thus, under the ‘Who or What Is Impacted?’ parameter, the definition of cumulative impacts would include people (including sensitive and vulnerable populations), communities, geographic areas, and the environment (air, land, and water). Under the ‘What Is Causing the Impacts?’ parameter, the definition would include chemicals, agents, non-chemical stressors, emissions, discharges, projects, and individually minor but collectively significant actions. Under the ‘What Type of Impacts?’ parameter, the definition would include health risks, direct and indirect effects, environmental burdens and hazards, ecological effects, and negative and positive effects. Under the ‘What Is the Time Frame?’ parameter, it would include short-term and long-term impacts, and past, present, and reasonably foreseeable future impacts. This inclusive definition provides an analytical framework for approaching the complex question of cumulative environmental impacts. It will also ensure that the cumulative impact problems will be approached from a variety of angles and minimize the chances of developing an analytical framework that overlooks important issues.”

Response 1: In proposing a working definition for cumulative impacts, staff has attempted to capture the scope of terms that is most suitable for guiding the pilot projects being conducted by the various boards and departments. The proposed working definition will be revisited based on the findings of the pilot projects and as new information becomes available.

Comment 2: “The assessment of cumulative impacts and the implementation of the pilot projects needs to include the analysis of demographic data and health indicators. The demographic data analysis should, at minimum, include information about the ethnic and racial background of the area being considered, income, and language usage and familiarity. Ideally, the demographic data would include an assessment of trends over time. For example, Professor Manuel Pastor and his colleagues have discovered that areas of ‘ethnic churning’ (i.e., where communities have transitioned from one primary ethnic make-up to another) have a higher likelihood of having companies that treat, store, or dispose of hazardous materials move into their neighborhoods. The health indicators analysis should include an assessment of the health status and needs of communities. Cal/EPA should pay particular attention to health issues known or likely to be linked to exposure to environmental contaminants (e.g., asthma, cancer, developmental disease, birth defects, preterm birth, low birth weight, cardiovascular disease, etc.). Health needs indicators should include access to health care services, medical insurance status, and health care knowledge and educational opportunities.”

Response 2: Pre-existing health factors that contribute to increased vulnerability to emissions, discharges, and exposures will be addressed under “sensitive populations” where information is available. To the extent possible, health indicators will be examined geographically based upon available data. The California Environmental Health Tracking Program may provide some assistance here.

Comment 3: “Cal/EPA should use a two-track approach when analyzing and reducing cumulative impacts. One track should include the use of existing data and a second track should include the identification and elimination of data gaps. For example, when considering air pollution, Cal/EPA should rely upon existing information about sources of toxic air contaminants. Cal/EPA should also identify toxic air contaminant data gaps (e.g., the lack of information about emissions and toxicity of known and suspected toxic air contaminants) and develop the means of eliminating those data gaps without delay.”

Response 3: Staff’s approach to how the pilot projects will be conducted with respect to cumulative impacts assessment is consistent with this approach.

11. Comments from Richard Smith, San Diego Air Pollution Control District

Comment 1: “The IWG on EJ should also develop guidance on how the results of a multi-media cumulative impacts assessment should be used in the decision making process (i.e., what is the recommended health risk threshold of acceptability for a multi-media impacts analysis).”

Response 1: We expect that the role of cumulative impacts assessment in decision-making will be considered in great detail during later phases of the implementation of the EJ Action Plan.

12. Oral Comments from Workshop in Fresno, California (October 12, 2004)

Comment 1: When Cal/EPA selects a community for the project, how will cumulative impacts be address if the lead agency is, for example, DPR? How will air, water, toxic, etc. be included?

Response 1: By including all of Cal/EPA’s boards and departments in the projects under the EJ Action Plan, there will be a great deal of cross-communication on issues related to considering pathways of exposure to emissions, discharges, and other exposures not necessarily of primary concern to a given board or department. This communication is expected to facilitate the appropriate inclusion of “multi-media” data for each of the pilot projects.

Comment 2: Where did staff get the definition they used for U.S. Environmental Protection Agency?

Response 2: The definition presented at this workshop came from the U.S. Environmental Protection Agency’s (U.S. EPA) Framework for Cumulative Risk Assessment (Office of Research and Development, National Center for Environmental Assessment, Washington Office, Washington, DC, EPA/600/P-02/001F, 2003.) U.S. EPA defined “cumulative risk” as “the combined risks from aggregate exposures to multiple agents or stressors.”

Comment 3: How can multi-media cumulative impacts analysis be conducted where there are problems with even evaluating the cumulative impacts in a single environmental media?

Response 3: Staff recognizes that the assessment of cumulative impacts is complex and the tools and methodology available for performing such assessments are limited. Nonetheless, staff will begin assembling information and conducting preliminary assessments in an effort to explore

how cumulative impacts may be used to improve community health in select communities under consideration in the pilot projects.

Comment 4: Will Cal/EPA adopt the definition of cumulative impacts that is used in the Environmental Justice Advisory Committee's Recommendations Report?

Response 4: Staff used the interim definition by the California EJ Advisory Committee as a starting point for building a definition of cumulative impacts for the pilot projects.

Comment 5: How are Cal/EPA's boards and departments going to do cumulative risk reduction studies?

Response 5: Staff expects that the relationship between cumulative impacts assessment and risk reduction studies will be considered in great detail during later phases of the implementation of the EJ Action Plan.

Comment 6: How will the definition of cumulative impact and precautionary approaches be crafted?

Response 6: The proposed working definition for the pilot projects was developed in part from existing definitions of cumulative risks and impacts and in part from the concerns of stakeholders during the course of public workshops and reviewing submitted comments.

13. Oral Comments from Workshop in Diamond Bar, California (October 19, 2004)

Comment 1: Why are we revisiting cumulative impacts definition?

Response 1: The definition is being revisited at the request of the California EJ Advisory Committee.

Comment 2: The overwhelming majority of the Cal/EPA EJ Advisory Committee approved the definition presented in their report.

Response 2: Staff used the interim definition proposed in their final report as a starting point for building a definition of cumulative impacts. This was the recommendation of the Advisory Committee (p. 15 and p. 25 of the report)

Comment 3: Cal/EPA should not get caught up in creating a definition.

Response 3: Since there has not been a clear consensus on what constitutes "cumulative impacts," Cal/EPA thought it was important to begin a dialogue internally and with stakeholders on what an appropriate definition would be. Cal/EPA considers the exercise to be valuable establishing early the expectations of how cumulative impacts are considered in the pilot projects.

Comment 4: Cal/EPA should use definitions developed by the Cal/EPA Advisory Committee as working definitions for the teams and pilot projects.

Response 4: Staff used the interim definition by the Advisory Committee as a starting point for building a definition of cumulative impacts for the pilot projects, as recommended by the Advisory Committee.

Comment 5: Cal/EPA should refine the definition based on real-world experience coming out of pilot projects.

Response 5: We agree. Staff views the pilot projects as an opportunity to see how cumulative impacts assessments can be conducted. The experience will be valuable in refining future definitions.

Comment 6: Advisory committee recommended a six-month public process on the definitions and this time has already passed.

Response 6: Cal/EPA regrets any delays in moving quickly to establish a working definition for cumulative impacts for use in the pilot projects proposed in the EJ Action Plan. Cal/EPA felt it was necessary to garner considerable public input before proceeding and for that reason conducted a series of four public workshops throughout the state and included an extensive public comment period.

14. Oral Comments from Workshop in Oakland, California (October 25, 2004)

Comment 1: The definition of cumulative impact needs to be very clear at the local level.

Response 1: We agree that a clear definition will be useful to the communities being studied under the pilot projects.

Comment 2: Whatever the parameters are, everyone needs to know.

Response 3: Staff has endeavored to make the parameters of the definition of cumulative impacts clear.

Comment 3: Cal/EPA should include the social-economic impacts of the community (i.e., medical costs).

Response 3: To the extent reasonable and feasible, staff will consider health statistics in determining the sensitivity of the communities being studied in the pilot projects.

Comment 4: The definition of cumulative impacts should include what already exists in addition to what is estimated to occur.

Response 4: Staff has focused its definition on contributors to impact that are important for the pilot projects: emissions, discharges, and exposures. We hope to consider past, present and, to the extent feasible, reasonably foreseeable contributors to impacts in the pilot projects.

Comment 5: The risks are different depending upon the region.

Response 5: Staff agrees. For this reason, Cal/EPA has sought to conduct pilot projects in multiple regions and also to define early the regions under consideration.

Comment 6: How are you planning on identifying the “guilty” party when you have more than one facility in close proximity?

Response 6: The definition of cumulative impacts that is being proposed for the pilot projects is not intended to identify “guilty” or “innocent” parties in the assessment, but to identify sources that contribute the most to the combined effects on a given community.

Comment 7: Is Cal/EPA’s resolution that all the parties within this area work together to arrive at a solution?

Response 7: By constructing pilot projects with local advisory groups (LAGs) and by conducting the process of scoping the pilot projects in a public manner, Cal/EPA hopes that all the relevant parties will participate.

Comment 8: Will Cal/EPA approach the problem of mitigation?

Response 8: Mitigation of potential community impacts will be considered at a later phase of Action Plan when both recommendations are made with respect to cumulative impacts project and the pilot projects develop recommendations for reducing risks to children.

Comment 9: Can we work together to bring all the potential businesses/communities together to find potential solutions?

Response 9: Cal/EPA expects that a large number of stakeholders, including business and community interests, will be brought together to work toward reductions of cumulative impacts to children’s environmental health.

15. Oral Comments from Workshop in Sacramento, California (November 8, 2004)

Comment 1: Impacts are to the people, just not our children. It’s all of our people.

Response 1: Staff agrees. Considering ways to reduce risks to children is a primary concern of the pilot projects, but cumulative impacts to all people will benefit from this undertaking.

Comment 2: All impacts have a tremendous long-term effect. If she had salmon in her diet, my mother would still be here today.

Response 2: Staff intends to consider both long- and short-term impacts from emissions, discharges, and exposures in evaluating cumulative impacts.

Comment 3: Energy is just getting started on a project with ARB to do an analysis of approach.

Response 3: Staff hopes that the draft working definition proposed here will help guide this approach.

Comment 4: Vulnerability of the people exposed – populations or sub-populations. Are they pre-disposed to worse impacts, based on their genetic make-up?

Response 4: Genetic predisposition is certainly a potential contributor to increased sensitivity to emissions, discharges, and exposures. To the extent that genetic predispositions in a given community are known, they will be considered in performing cumulative impacts assessments in the pilot projects.

Comment 5: What is the scope? How do you determine if an area has a disproportionate number of impacts?

Response 5: This is a large and complex question. The degree to which impacts on a given community are disparate will be considered during the course of conducting the pilot projects.

Comment 6: CCEEB does not think that non-chemical stressors should be part of the approach to cumulative impacts. There is a lack of data and methodology and lots of speculation. Cumulative impacts assessment needs to be science-based.

Response 6: Staff will focus on the contributions of emissions, discharges, and exposures in conducting the pilot projects. Staff agrees that science-based approaches are required for evaluation of cumulative impacts.

Comment 7: What are people being exposed to and what are the risks?

Response 7: Many key contributors to cumulative impacts have been introduced in the descriptions of the pilot projects. As the pilot projects are more fully developed, additional exposures and their contribution to health risks will likely be identified.

Comment 8: Non-chemical stressors should be included in definition. Sensitive populations should be included. Add all definitions presented in the slides, just put “ors” between the sentences.

Response 8: Staff will focus on the contributions of emissions, discharges, and exposures in conducting the pilot projects. Sensitive subpopulations will also be considered.

Comment 9: Add a category of “base-line issues.” Use a baseline of a clean environment. Consider what’s “not known” as well as what “is known.” For instance: A source located next

to a special education school. What are the toxicological impacts and non-chemicals stressors on special needs children?

Response 9: Staff is not going to specifically introduce the concept of “baseline” into the definition at this time, although baseline exposures will be captured in the assessment of emissions, discharges, and exposures. Part of the aim of performing a cumulative impacts assessment is to determine where disparate impacts are occurring. The extent to which special needs children are sensitive to the effects of emissions, discharges, and exposures will be considered if such a subpopulation exists within a community under study in a pilot project.

Comment 10: Where does the burden of proof fall? Combined risk of aggregate exposures? Burden falls on the community currently. Make definition least burdensome possible for communities.

Response 10: The definition of cumulative impacts does not address where the burden of proof lies.

Comment 11: Temptation to rely upon CEQA. Framework people are familiar with. In theory very useful in practice... CEQA doesn’t consider baseline of clean environment. Doing alternative analysis isn’t as stringent as it should be.

Response 11: Staff is not going to specifically introduce the concept of “baseline” into the definition at this time, although baseline exposures will be captured in the assessment of emissions, discharges, and exposures. The definition of cumulative impacts under CEQA was considered in producing the working definition currently proposed by Cal/EPA.

Comment 12: Criteria to reduce cumulative impacts: Have we reduced or prevented pollution in a measurable way?

Response 12: The question of whether pollution has been prevented or reduced is one which will be addressed in later phases of the EJ Action Plan.

Comment 13: Are the decisions by Cal/EPA’s boards and departments based on cumulative impacts?

Response 13: One goal of the pilot projects is to explore how Cal/EPA can better incorporate cumulative impacts analyses into its decision-making processes.

Comment 14: Mercury analysis shows 15% of women have elevated levels of mercury.

Response 14: The contribution of mercury exposures to health risks is a potential contributor to cumulative impacts and will be considered in the pilot projects when appropriate.

Comment 15: Tribal communities. Maintain spiritual sustenance from eating salmon. Something to think about impacts of raising a dam, which will affect the tribal lands as well as

the salmon runs. CEQA should/does address ALL impacts to the environment. Non-chemical stressors, as well as cultural impacts.

Response 15: Staff will focus on emissions, discharges, and exposures in the course of performing cumulative impacts assessments in the pilot projects. However, one pilot project has been proposed that will potentially explore this issue.

Comment 16: The Agency for Toxic Substances and Disease Registry (ATSDR) did a very good definition.

Response 16: Staff has not located the ATSDR definition mentioned, although we would be receptive and consider how it might contribute to the understanding of cumulative impacts.

Comment 17: CEQA definition of cumulative impacts is the one the group supports. Well-known concept among government. Cumulative impacts are dealt with by local agencies. If you end up with a different definition that includes non-chemical stressors, etc, how will you reconcile the difference between the local assessment and the State's definition of addressing cumulative impacts?

Response 17: Staff has proposed the definition of cumulative impacts within the context of the pilot projects in the EJ Action Plan. The definition will be revisited as the pilot projects proceed and as more information becomes available.

Comment 18: Decisions made on a preliminary basis will set the tone down the road. Our organization would support something that is empirically based and applied, so you can determine if the results are replicable.

Response 18: By initiating a discussion of cumulative impacts at an early phase of the EJ Action Plan, Cal/EPA hopes to hear any considerations that might be important for future recommendations on the applicability of cumulative impacts assessments to the decision-making processes made by the Agency.

Comment 19: Parameters around non-chemical stressors? Where do you differentiate?

Response 19: Staff will focus on emissions, discharges, and exposures in the course of performing cumulative impacts assessments in the pilot projects. It remains to be seen whether any of the pilot projects will include non-chemical stressors that fall within this definition.

Comment 20: First tribe directly downstream of reservoirs on the Klamath River. Farming going on in Upper Klamath River Basin. Tribes are affected downstream of the agriculture. Herbicides are flowing into the water where people bathe and drink. Suspect that tribal members have been suffering from the impacts all this time. Strong case for cumulative impacts.

Response 20: Staff agrees that there may be many contributors to cumulative impacts of the communities around the Upper Klamath River Basin.

Comment 21: You should address all people, not just children.

Response 21: Staff agrees that all people, not just children should be considered in a cumulative impacts assessment. The multi-media cumulative impacts analyses will consider the general population in addition to its focus on children's environmental risk.

Comment 22: CEC is having initial discussions with ARB regarding multivariate analysis concerning cumulative impacts. It is important to recognize sensitive subpopulations, e.g., those predisposed to illness due to their genetic makeup.

Response 22: Staff agrees that sensitive populations should be appropriately considered in a cumulative impacts assessment.

Comment 23: How do you determine if area has disproportionate number of impacts? The South Coast Air Quality Management District (SCAQMD) definition might apply.

Response 23: This is a large and complex question. The degree to which impacts on a given community are disparate will be considered during the course of conducting the pilot projects. Staff has considered the SCAQMD definition in developing a working definition for the pilot projects.

Comment 24: Non-chemical stressors SHOULD NOT be included due to the lack of data and methodologies; this is a huge task already - adding non-chemical stressors may prolong and complicate the process.

Response 24: Staff will focus on emissions, discharges, and exposures in the course of performing cumulative impacts assessments in the pilot projects.

Comment 25: Non-chemical stressors SHOULD be considered, also sensitive subpopulations. Be more rather than less inclusive.

Response 25: Staff will focus on emissions, discharges, and exposures in the course of performing cumulative impacts assessments in the pilot projects. Staff agrees that sensitive populations should be appropriately considered in a cumulative impacts assessment.

Comment 26: Consider where the burden of proof falls – make definition least burdensome for communities.

Response 26: The definition of cumulative impacts does not address where the burden of proof lies.

16. Comments received by e-mail since the Jan. 3, 2005 close of the comment period and since the release of the draft proposed working definition.

Comment 1: “‘Multimedia’ means exposures through different routes, like air (inhalation), food & water (ingestion) and contact with contaminated surfaces, but it doesn't say this in the proposed definition. Also, cumulative impacts should include the combined impacts both from different routes of exposure AND from different toxicants from one or more sources. This idea does not come across in the present definition.

‘Emissions’ and ‘discharges’ are not broad enough and leave some doubt as to whether exposures to intentional chemical use such as pesticide applications are included. I'd suggest including a term in this list such as ‘chemical use’ and another term that refers to exposures to naturally occurring toxic substances like arsenic in water or selenium in soils.

I'm not sure what, specifically, a ‘geographic area’ has to do with the definition of impacts. It seems like you have something in mind, but it's not exactly clear. Perhaps the context of the phrase would help clarify this. Also, ‘taking into account sensitive populations’ is not explicit enough and it seems like a non sequitur after the previous phrase. More clarity here would help, including some sense of what is meant by ‘taking into account’ (extra levels of protection? lower allowed concentrations of toxicants in the environment?) and giving some examples of sensitive populations, like infants, children, pregnant women, the elderly and the immune-compromised.” [Susan Kegley; Jan. 20, 2005]

Response 1: It is staff's intent that multi-pathway exposures be included. In order to address concerns that “emissions and discharges” was not broad enough for the pilot projects, the term “exposures” has been added to the definition. The term “a geographic area” was included in the definition because it speaks to the importance of the scope of a cumulative impacts assessment problem in both size and nature.

Comment 2: “Two Suggested Changes to the Proposed Definition: CCEEB suggests that Cal/EPA modify the proposed definition to clarify that: 1) the definition is for use in the EJ pilot projects; and 2) “geographic area” means the area of the pilot project in question. Specifically, CCEEB suggests the changes as shown below with underscore and strikeout. ‘For purposes of the four pilot projects under Cal/EPA’s Environmental Justice Action Plan, ~~“Multi-media cumulative impacts”~~ means the combined impacts of emissions and discharges on human health and the environment in ~~a~~the geographic area of the pilot project, taking into account sensitive populations.’ [Cindy Tuck; Jan. 31, 2005]

Response 2: These points are well taken. Staff believes that these points are addressed in the narrative accompanying the definition.

Comment 3: “CCEEB concurs with Cal/EPA’s proposal that the proposed definition is intended to address multi-media cumulative impacts within the traditional health risk assessment paradigm (January 14, 2005 Draft at Page 2). CCEEB suggests that Cal/EPA reiterate this concept in subsequent documents for the following reasons: 1. This proposal is consistent with a core part of the Action Plan - the development of Children's **Environmental Risk Reduction** Plans (emphasis added). 2. This proposal is consistent with Cal/EPA's commitment to use science-based analysis for multi-media cumulative impacts. 3. Evaluating exposure (e.g., concentration in the air) is a key part of risk assessment. 4. As was reiterated in the January 20,

2005 Cal/EPA call with stakeholders, the ‘end game’ for some organizations in this effort is to change the permitting process (i.e., to affect which facilities/projects are allowed to be permitted in some areas). Those statements make it all the more important that Cal/EPA develop a definition that allows for objective analysis of multi-media cumulative impacts using peer-reviewed scientific tools. CCEEB recognizes that Cal/EPA plans to develop criteria and protocols for identifying any EJ gaps in standard risk assessment in Phase 3 of the Action Plan implementation.” [Cindy Tuck; Jan. 31, 2005]

Response 3: Staff agrees that science-based analyses are required for conducting cumulative impacts analysis. Cal/EPA has not made a determination as to which decision-making processes are likely to be considered when implementation options are developed.

Comment 4: “Since Cal/EPA is developing the ‘multi-media cumulative impacts’ definition in the context of environmental justice, we have been assuming that the focus is public health and children's health. Some CCEEB members have asked whether there is any particular meaning to the words ‘and the environment’ in the definition. If the term ‘and the environment’ has a special meaning for purposes of the pilot projects, that should be discussed in the narrative.” [Cindy Tuck; Jan. 31, 2005]

Response 4: Staff considers the environment, particularly environmental degradation, to be a potential issue of concern in environmental justice communities. To the extent possible, the impact of emissions and discharges on environmental quality will be considered as part of the cumulative impacts assessments in the pilot projects.

17. Comments received during telephone conference with external stakeholders (Jan. 20, 2005)

Comment 1: In ARB’s EJ policy, we moved away from a risk-based paradigm. Risk-based definitions don’t reduce exposure. This is a step back and we see it as a significant problem. Use emission and exposure paradigm.

Response 1: “Exposures” have been added to the definition of cumulative impacts.

Comment 2: In the ARB process we agreed on an emission and exposure paradigm but it included health risk. Risk was not dropped.

Response 2: The evaluation of health risks is expected to be a major component of the cumulative impacts assessment for the pilot projects.

Comment 3: Context: The three variables were considered, and the result is all three are necessary. Each has its strengths and weaknesses so including all three is best.

Response 3: Staff has included emissions, discharges, and exposures in its revised definition of cumulative impacts. Health risks (as an effect) are expected to be a major consideration in the assessments of cumulative impacts.

Comment 4: All three need to be included: emissions, exposure, risk

Response 4: See response to Comment 3 above.

Comment 5: I don't have a problem with the definition. There are different sources of emissions or discharges and I'm not clear if this means household emissions. We need to clearly define that.

Response 5: At this point, staff has not determined specifically which emissions, discharges, and exposures will be considered under the pilot projects.

Comment 6: The definition is not understandable. The average person may not be able to know what a discharge is. Define it for the common person.

Response 6: Staff has worked to develop a definition that would be understood by the average layperson. As stated during the development of the definition, this is a working definition and the terms used will be revisited during the course of the pilot projects.

Comment 7: We also have to consider that there may be high background levels. The concept is that a family may already have a high body burden and that needs to be factored in. Used the example of DDT. There is an additive factor and a synergistic factor that need to be considered.

Response 7: The issues of background, additivity, and synergy will all be considered in cumulative impacts assessments for the pilot projects, to the extent that information and tools are available.

Comment 8: There needs to be clarity in the definition.

Response 8: Staff agrees and has tried to develop a clear definition.

Comment 9: Much of the clarity will come from the narrative.

Response 9: The intent of the definition will become clearer as the pilot projects explore cumulative impacts.

Comment 10: There needs to be an accounting of sub-populations. Worried that exposures would be averaged over a large area.

Response 10: The proposed working definition for the pilot projects explicitly includes consideration of sensitive populations. Exposures will be estimated or measured where these populations are located or spent most of their time.

Comment 11: Is the geographic area intended to be the area of the pilot project? If this is the case, the draft definition should be clarified to include "in the geographic area of the pilot project."

Response 11: The term “a geographic area” was included in the definition because it speaks to the importance of the scope of a cumulative impacts assessment problem in both size and nature. The size of the geographic area will be determined by the nature of the emissions, discharges, and exposures under consideration.

Comment 12: The [initially proposed] definition is circular; you define “impacts” by using the word “impact.” Draft definition for consideration: “Multi-media cumulative impacts means changes in the environment or human health resulting from the direct or indirect effects of environmental stressors. A stressor is a physical, chemical, biological, or other entity that can cause an adverse response in a human or other organism or ecosystem.”

Response 12: The proposed definition has been modified. The term “impacts” in the definition has been changed to “effects.”

Comment 13: Estimating the “change” is hard; it has to be objective. “Stressors” are too broad.

Response 13: Staff agrees that finding measurable differences over time and between communities may be difficult. Staff has included emissions, discharges, and exposures in its revised definition of cumulative impacts.

Comment 14: Suggested we look at the language contained in the [South Coast] Air Quality Management District (SCAQMD) cumulative impacts white paper.

Response 14: In proposing a working definition for the pilot projects, staff has considered the SCAQMD’s language contained in the cumulative impacts white paper.

Comment 15: We weren’t satisfied with that language.

Response 15: Staff notes that there was not agreement within the group as to the utility of the SCAQMD language to inform a suitable definition for the pilot projects.

Comment 16: You have to include background in the discussion.

Response 16: The issue of background will be considered in cumulative impacts assessments for the pilot projects, to the extent that information and tools are available.

Comment 17: Any cumulative impacts and any stressors that exist have to be included.

Response 17: Cal/EPA has determined that emissions, discharges, and exposures will be considered by the pilot projects in the evaluation of cumulative impacts.

Comment 18: OEHHA should develop a white paper on how they take these things into account, existing burdens and burdens on sensitive people.

Response 18: These issues will be explored and methods developed in a later phase of the Action Plan.

Comment 19: Risk assessment doesn't protect the health of an impacted community. We have to look at what is real, what is the health status. Access to health care and stressors have to be considered. We have to look at all things. CEQA has a cumulative impacts section.

Response 19: Staff considered the CEQA definition of cumulative impacts in devising a working definition of cumulative impacts for the pilot projects.

Comment 20: The CEQA definition targets stationary sources.

Response 20: Staff agrees.

Comment 21: Substitute the word "exposure" for "project" in the CEQA definition.

Response 21: Cal/EPA has determined that emissions, discharges, *and* exposures will be considered in the pilot projects for the evaluation of cumulative impacts.

Comment 22: Was the NEPA definition considered?

Response 22: Yes, staff considered the definition.

Comment 23: The NEPA definition is broader than CEQA.

Response 23: Staff notes that the NEPA and CEQA definition are "action"- and "project"-based, respectively.

Comment 24: The concept in CEQA is good, but you can't translate it directly.

Response 24: Staff agrees.

Comment 25: There may be problems using the language from CEQA because you are not just dealing with the words on their face, for example, there is extensive litigation interpreting many of the words and concepts.

Response 25: Staff acknowledges that there is an enormous amount of case law that supports the definition of cumulative impacts under CEQA.

Comment 26: How do you define significant?

Response 26: The term "significant" has not been included in the working definition of multi-media cumulative impacts for the pilot projects.

Comment 27: The ARB policy is a good concept, CEQA is good, but you have to mix and match.

Response 27: Staff has tried to develop a working definition that optimizes the terms most useful for guiding the pilot projects.

Comment 28: The South Coast AQMD has language in its white paper on cumulative risk: “The following definition of a cumulative air pollution impact, while not a consensus of the Working Group members, attempts to recognize their viewpoints and develop a working definition: ‘A cumulative air pollution impact is an adverse health effect, risk or nuisance from exposure to pollutants released into the air from multiple air pollution sources.’ ‘Further refinement or variation of this definition may be needed in the future when a specific regulation or policy is formulated. Reference to ‘air pollution’ under this working definition is intended to include not only air toxics, but criteria pollutants, such as particulates, and nuisances (e.g., odors).” This definition focuses on adverse health effects, risk, nuisances, and exposures while failing to deal adequately with emissions of air pollutants. Fundamentally problem in that AQMD is talking about what people are exposed to and what are the cancer and non-cancer risks. What is the toxicity, what is the distance and what other factors are there? The factors will vary.

Response 28: In proposing a working definition for the pilot projects, staff has considered the language contained in the SCAQMD’s cumulative impacts white paper.

Comment 29: Proximity is not necessarily a factor; the food chain is a good example.

Response 29: Cal/EPA agrees that there may be sources of impact that are not necessarily physically close to a given community or population.

Comment 30: The key is how we make an objective standard.

Response 30: Our goal is to create a common understanding of cumulative impacts for the pilot projects.

Comment 31: We can measure the changes in the environment and on health. We can use well-established test methods. Don’t give up on the idea of measuring changes; we should be able to agree upon this.

Response 31: Where changes can be reasonably measured, the pilot projects will attempt to do so, but such changes usually occur over longer time periods than that of the pilot projects.

Comment 32: Proposed the following language: “‘Multi-media cumulative impacts’ means the aggregated effects on human health and the environment that result directly or indirectly from exposure to contaminants in the air, water, and soil, including existing exposures, and where applicable, reasonably foreseeable exposures due to proposed projects or changes.” You might consider adding the following: “Exposures in this context can be understood to exist where contaminants are present in the ambient air, water, or soil (including non-soil solid media with which a person may come into contact), where contaminants are emitted or discharged into the ambient air, water, or soil, or where secondary processes occur, such as chemical reactions after release, or uptake into food sources.” You might also consider this: “In order to develop a relevant and useful estimate of multi-media cumulative impacts it is necessary to assess the

extent of the exposure, and the magnitude of the possible effects caused by the exposure, which will vary significantly based on a number of important factors.” Finally, I always try to include any important, concrete statements that the group seemed to have consensus on, especially if they can be used to guide interpretation later. So, I would lead with: “Methods and tools to better estimate multi-media cumulative impacts are intended to help identify and address environmental justice problems, and to improve public health.” Altogether, it’s a mouthful. It reads: “Methods and tools to better estimate multi-media cumulative impacts are intended to help identify and address environmental justice problems, and to improve public health. “Multi-media cumulative impacts” means the aggregated effects on human health and the environment that result directly or indirectly from exposure to contaminants in the air, water, and soil, including existing exposures, and where applicable, reasonably foreseeable exposures due to proposed projects or changes. Exposures in this context can be understood to exist where contaminants are present in the ambient air, water, or soil (including non-soil solid media with which a person may come into contact), where contaminants are emitted or discharged into the ambient air, water, or soil, or where secondary processes occur, such as chemical reactions after release, or uptake into food sources. In order to develop a relevant and useful estimate of multi-media cumulative impacts it is necessary to assess the extent of the exposure, and the magnitude of the possible effects caused by the exposure, which will vary significantly based on a number of important factors.”

Response 32: Staff agrees with most commentors that the definition should be relatively short to increase readability and general understanding.

Comment 33: That definition (Comment 32) is problematic because it places the burden of proof on the community to prove that an exposure has occurred.

Response 33: The proposed working definition of cumulative impacts for the pilot projects does not address the issue of burden of proof.

18. Comments received via the Cal/EPA web forum (www.calepa.ca.gov/forums)

Comment 1: “There is nothing in this term that denotes what the term means. This is term that professionals in the environmental arena would understand but not something that the average lay person would understand.” “I recommend this term be reshaped that it is easily translated by the average the person. Taking into account the most high risk areas (low-income communities) face a number of language barriers i.e. literacy, multilingual, etc.” [user “Fjones”]

Response 1: Staff has worked to develop a definition that would be understood by the average layperson. This is a working definition and the terms used in the definition will be revisited during the course of the pilot projects.

Comment 2: “I did a small survey of people coming into the Environmental Center asking them what ‘muti-media cumulative impacts’ meant. There was a lot of discussion about mixed metaphors! “I’m sorry that I don’t understand the phrase ‘multi-media’ in the context of cumulative impacts. Could someone help me out?” [user “Pamela Heatheri”]

Response 2: Staff agrees that there is not presently a common understanding of what cumulative impacts are and what contributes to cumulative impacts. Staff has proposed a definition that will help to guide the pilot projects in conducting a preliminary cumulative impacts assessment. The term “multi-media” was intended to convey the different environmental media by which people may be exposed to emissions and discharges (*e.g.*, air and water). In the upcoming phases of the EJ Action Plan, work will likely focus on “cumulative impacts” from environmental media by different routes or pathways of exposure.

Comment 3: “The definition is not understandable.” “The average person may not be able to know what a discharge is.” “Define it for the common person.” “This term is jargon. Avoid it in a public document. The thought that it conveys can be explained in the document's context.” “Glossaries are a signal to me that the document is not written for the public. It is written for a somewhat small, specialized audience who thinks that a glossary makes their jargon understandable to the public. It doesn't. A glossary is unneeded, unfriendly and discourteous to the reader.” [user “Durant”]

Response 3: See response to Comment 1 above. The term “discharge” was proposed by the California EJ Advisory Committee in its interim definition and is intended to include pollutants released into air, water and soil.